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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/788,458	03/01/2004	Yigal Bejerano	29250-001097/US	7376
32498 7590 10/02/2007 CAPITOL PATENT & TRADEMARK LAW FIRM, PLLC ATTN: JOHN CURTIN P.O. BOX 1995 VIENNA, VA 22183			EXAMINER ZHOU, YONG	
			ART UNIT	PAPER NUMBER
			2609	
			MAIL DATE	DELIVERY MODE
			10/02/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/788,458

Applicant(s)

BEJERANO ET AL.

Examiner

Yong Zhou

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 6/15/2004.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application
- ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-17 rejected under 35 U.S.C. 102(e) as being anticipated by Ayyagari et al. (US Patent Application No. 2005/0169222).

Regarding claims 1, 7 and 13, Ayyagari et al. teach a method and system for coordinating ([0017], line 2) transmissions of access points in a wireless local area network (IEEE 802.11, [0032], line 3) comprising the steps of:

estimating a number of slots (segments of time, [0025], right col., lines 2-3, and [0071], line 2) for each access point associated with a contention free period (CFP) ([0021], lines 6-7 wherein the Beacon data must be transmitted without collision and therefore the Beacon region is part of CFP according to the definition in the application);

generating estimated slot sequences, slot assignments ([0077], lines 1-2, and [0094], lines 6-8), and a transmission frequency ([0016], lines 1-3, and [0076], lines 1-2, wherein choosing a Network ID (NID) not shown in any of the Interfering Network Lists (INL) of other BSSs implies choosing a different transmission frequency for the new

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BSS) for each access point based on the estimated number of slots and an interference graph (Fig. 1) associated with every access point (QoSC in a BSS, [0037], lines 4-5);

determining a total number of slots used in the estimated slot assignments ([0077], lines 1-2; it is inherent that the total number of slots used should be determined and compared with the total number of slots available before choosing a slot for a new AP);

comparing the total number of slots to an available number of slots ([0074], lines 5-6, and [0077], lines 1-2; it is inherent that the total number of slots used should be determined and compared with the total number of slots available before choosing a slot for a new AP);

adjusting a slot-to-user ratio of each access point if the total number of slots does not equal the available number of slots ([0019], lines 9-11, and [0066], lines 2-4); and

assigning each access point a number of slots and a slot sequence based on the estimated slot assignments and slot sequences and assigning each access point a transmission frequency when the total number of slots equals the available number of slots ([0094], lines 6-8, and Table 9 wherein interfering BSSs (with the same or interfering transmission frequencies) are assigned different slots and two non-interfering BSSs F and D are assigned the same slot).

Regarding claims 2, 8 and 14, Ayyagari et al. further teach that the adjustment step further comprises the steps of:

increasing the slot-to-user ratio of each access point when the total number of slots is less than the available number of slots ([0019], lines 9-11) and

decreasing the slot-to-user ratio of each access point when the total number of slots is greater than the available number of slots ([0019], lines 9-11, and [0103], lines 5-8 wherein the bandwidth release procedure can be used to re-allocate the bandwidth).

Regarding claims 3, 9 and 15, Ayyagari et al. further teach the steps of:

estimating a next number of slots for each access point based on each access point's adjusted slot-to-user ratio ([0066], lines 2-4); and

generating next, estimated slot sequences, slot assignments ([0077], lines 1-2, and SlotID, Table 6) and a transmission frequency ([0016], lines 1-3 , and [0076], lines 1-2) for each access point based on the next number of slots and the interference graph.

Regarding claims 4, 10 and 16, Ayyagari et al. further teach that the generation step further comprises generating the estimated slot sequences, slot assignments and frequencies such that no two interfering access points are assigned the same transmission frequency during a given slot ([0076], lines 1-2) and such that a total number of assigned slots is minimized ([0078], lines 1-2, choosing 1 slot minimizes the total)

Regarding claims 5, 11 and 17, Ayyagari et al. further teach the step of adjusting the slot-to-user ratio of each access point until said ratios substantially equal a maximum, lower bound of all of the slot-to-user ratios ([0019], lines 9-11, and [0066], lines 2-4).

Regarding claims 6 and 12, Ayyagari et al. further teach that the method comprises a 4-approximation technique ([0017] line 14, and [0076], lines 1-2, wherein

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choosing a Network ID (NID) not shown in any of the Interfering Network Lists (INL) of other BSSs implies choosing a different transmission frequency for the new BSS).

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Suzuki et al. (US Patent Application No. 2003/0169697) teach a wireless communication system and method to allow the coexistence of a plurality of mutually contending wireless networks.

Benveniste (US Patent Application No. 2002/0154653) teaches random medium access methods with backoff adaptation to traffic.

4. Any Response to this Office should be **faxed** to (571) 273-8300 or **mailed to**:

Commissioner for Patents,
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to
Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yong Zhou whose telephone number is (571) 270-3451.


The examiner can normally be reached on Monday - Friday 8:00am - 5:00pm EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Benny Q. Tieu can be reached on (571) 272-7490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

YZ


BENNY Q. TIEU
SPE/TRAINER